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II. *On Meteorological Observations and Bills of Mortality, in a letter from EDWARD A. HOLYOKE, M.D.A.A.S. to the late EDWARD WIGGLESWORTH, D.D. A.A.S.*

*Salem, Feb. 22d, 1790.*

DEAR SIR,

I AM much obliged to you for a sight of those papers, you forwarded to me by Mr. Prince : I think your method of communicating the results, only, of your meteorological observations, much to be preferred to the gross bill, for though, to condense them in this manner, be a work of much labour, yet it occasions such papers to be much more attended to, than they otherwise would be, and of course much more useful ; though I think it might be useful too, to file the observations, at large, with the secretary, because there may be certain inferences of importance drawn from these, which cannot be from those, such as, E. Gr. the effect the winds have upon the mercury in both barometer and thermometer, &c.

I could not help attending, particularly, to the article of winds, by which I find all the American observations, I have met with, on that head confirmed, and that yours agree with what I have advanced in a paper I presented to the Academy on the comparative cold and heat of Europe and America, viz.

that westerly winds are by much the most prevalent ; for the two years contained in your paper I find the westerly winds are to the easterly as 673 to 258.

I was glad to find by your communication on the bills of mortality, that so many gentlemen have attended to this matter ; and hope the stock of these bills will be much enlarged, as it is only from a large number, and those continued for a course of years, that general conclusions can be deduced with any good degree of certainty. And I could wish that when gentlemen are at the trouble of forming bills of this kind, that they would be as particular as possible : I think much information might be obtained from a *monthly* bill, which should likewise particularize the *diseases* of which each person died in each month, and the *age* of the deceased : this would inform us, not only which month was most fatal to our species ; but also what kind of diseases were most prevalent in each month, and to what ages the fatality was chiefly confined ; and these are all objects of importance.

Upon the bill of ages which you have collected, I would observe, that the 1st, the 5th, and 6th periods are the largest, and that the 3d is the least, in proportion to the numbers living ; which facts may, I think, be accounted for thus ; Infancy is an almost continued state of sickness, and the human body, not having yet attained any considerable degree of strength and vigour, many at this period must of course sink under their various maladies : but between 10 and 15 (the 3d period)  
when

when man has survived the danger of infancy, and the body hath acquired some degree of firmness, but not its full growth, he is then but little liable to diseases, especially such as arise from obstruction, as the vessels are now soft and pliant, and at the same time enlarging every day, in diameter, so that if obstructions should be formed, the natural and rapid growth hath a direct tendency to prevent any mortal effects from this cause. But between the ages of 20 and 30 (the 5th and 6th periods) the mortality is greatly increased; which occasioned me no small surprise when I first attended to this circumstance, 7 or 8 years ago, when I first began to keep an account of deaths; but which I believe must be accounted for in this way. It was observed by Hippocrates, and the observation has been confirmed by almost every physician since, who has treated of the subject, that pulmonary phthisis is by far the most incident to persons between 18 and 35 years old: now this disease has of late become much more frequent, both here and in Europe, than formerly, and makes up, I believe, at least a 10th, perhaps a 6th of our whole bill of mortality; if then we take 489, i. e. about one 10th of the deaths in your bill, and distribute that number into the years which Hippocrates and common observation tell us are most obnoxious to phthisis, we shall find it will amply account for the increase of deaths in these periods; for we find that from 20 to 35 the deaths amount to 645, from which, if we deduct 489 for consumptive cases, we have left but 156 for the whole mortality of these 15 years, from other causes; to which we must add  
that

that persons, at this age, are as liable to fevers, as perhaps at any other, and that their numbers are greater than at any subsequent period : so that with the exception of phthisis this period is perhaps the most favourable to human life.

Si quid novisti rectius istis, candidus imperti,  
Si non, his utere mecum.

I am with esteem, Sir, your very humble servant,

E. A. HOLYOKE.

*Rev. Professor Wigglesworth, D. D.*

*Synopsis*